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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/662,913

09/15/2003

Jiann-Chen Chen

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EXAMINER

LIGHTFOOT, ELENA TSOY

ART UNIT

PAPER NUMBER

1792

MAIL DATE

DELIVERY MODE

04/30/2009

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/662,913	Applicant(s) CHEN ET AL.	
	Examiner Elena Tsoy Lightfoot	Art Unit 1792	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 23 March 2009.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-3,5,6,8-11 and 14-18 is/are pending in the application.
- 4a) Of the above claim(s) 15 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-3,5,6,8-11,14,16-18 and 21-25 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

Response to Amendment

Amendment filed on March 23, 2009 has been entered. New claims 21-25 have been added. Claims 1-3, 5-6, 8-11, 14-18, and 21-25 are pending in the application. Claim 15 is withdrawn from further consideration pursuant to 37 CFR 1.142(b) as being drawn to a nonelected invention, there being no allowable generic or linking claim.

DECLARATION

of JIANN H. CHEN & JOSEPH A. PAVLISKO UNDER 37 C.F.R. §132

The Declaration filed on March 23, 2009 correcting errors in the previously filed Declaration has been entered.

The Declarants Jiann H. Chen and Joseph A. Pavlisko declare again that since the preamble of the Jepson format claim of original claim 19 is Declarants' own work, the rejection has to be withdrawn.

The Examiner respectfully disagrees with this argument. In contrast to Declarants' statement, the preamble of the Jepson format claim of original claim 19 is not Declarants' own work because hollow fuser members were known in the art, as evidenced by US 5,141,788 to Badesha et al assigned to Xerox Corporation. Badesha et al teaches a fuser roll comprising elastomer surface upon suitable base member which is a **hollow** cylinder or core fabricated from any suitable metal such as aluminum, anodized aluminum, steel, **nickel**, copper, and the like, having a suitable heating element disposed in the hollow portion thereof which is coextensive with the cylinder (See Fig. 1; column 7, lines 6-53).

Claim Rejections - 35 USC § 103

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

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2. Rejection of claims 1-3, 5-6, 8-11, 14 and 16-18 under 35 U.S.C. 103(a) as being unpatentable over Shifley et al in view of Wallin, Kawada et al and Bird et al, further in view Weber et al, and further in view of Hartley et al and Chen et al has been withdrawn because the Examiner agrees with Applicants that Shifley et al teaches a photoconductive member not a fuser roller.
3. Rejection of claims 1-3, 5-6, 8-11, 14 and 16- under 35 U.S.C. 103(a) as being unpatentable over Hartley et al and Chen et al in view of Shifley et al, further in view of Wallin, Kawada et al and Bird et al, further in view Weber et al has been withdrawn because the Examiner agrees with Applicants that Shifley et al teaches a photoconductive member not a fuser roller.
4. Claims 1-3, 5-6, 8-11, 14 and 16-18 under 35 U.S.C. 103(a) as being unpatentable over Applicants' admitted prior art (AAA) and applied as evidence Shifley et al (US 6259873), Hartley et al (US 4,853,737) and Chen et al (US 5,781,840), and further in view of Wallin (US 3,799,859), Kawada et al (JP 200131864), Bird et al (US 3552898) and Weber et al (US 5,750,160) for the reasons of record set forth in paragraph 2 of the Office Action mailed on 10/21/2008 because typical hollow cylinder cores described by AAA read on claimed sleeve.

Applicants argue that the Examiner continues to erroneously equate reference of AAA to a "hollow cylinder core" to the nickel sleeve employed in the present invention. There is no basis for such position, however, as by the use of the term "core," it is clear such reference is directed towards the typical fuser rollers wherein the hollow cylinder is itself rigid and of substantial thickness so as function as the "core" of the roller itself (these type of roller cores are further described, e.g., in the cited Hartley et al. reference, at, e.g., col. 7, lines 60-66), to which the further described layers are directly coated. Such reference is not to a sleeve member adapted to be positioned over a machine mandrel to function as a roller, as in such embodiment it is the mandrel which in effect functions as the roller core. The use of the term "sleeve" as employed in the present invention accordingly clearly distinguishes from the "admitted prior art" regarding hollow cylinder cores. While the claimed use of a coated sleeve in combination with a mandrel itself clearly differentiates from a rigid core itself, it is further noted that claim 5 additionally sets forth thickness limitations for the sleeve that further distinguish the claimed invention from the

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prior art use of rigid cylindrical cores upon which the remaining layers of the fuser roller are directly coated.

The Examiner respectfully disagrees with this argument. First of all, Applicants admitted that known toner fuser rollers typically included a hollow cylinder core *without* referring to the thickness of the hollow cylinder core. Second, the term “core” does not necessarily refer to the thick cylinder, as evidenced by Badesha et al (US 5,141,788) which refers to a **thin** cylinder 4 (See Fig. 1) fabricated from any suitable metal such as aluminum, anodized aluminum, steel, nickel, copper, and the like as a **hollow core** (See column 7, lines 6-53). Thus, the hollow cylinder core in AAA would include both thin and thick thin hollow cylinder cores.

Therefore, in contrast to Applicants statement, prior art hollow cylinder cores would read on claimed sleeve **to be** positioned on a machine mandrel.

5. Claims 1-3, 5-6, 8-11, 14, 16-18, 21, 23, and 25 are rejected under 35 U.S.C. 103(a) as being unpatentable over a combination of AAA in view of Shifley et al, Wallin, Kawada et al, Bird et al, Weber et al, Hartley et al and Chen et al, as applied above, and further in view of Badesha et al (US 5,141,788) for the reasons of record set forth in paragraph 8 of the Office Action mailed on 10/10/2006.

As was discussed above, in contrast to Declarants’ statement, the preamble of the Jepson format claim of original claim 19 is **not** Declarants’ own work because hollow fuser members were known in the art, as evidenced by US 5,141,788 to Badesha et al. Badesha et al teaches a **fuser** roll 1 comprising elastomer surface 2 upon suitable base member 4 which is a **hollow** cylinder or core fabricated from any suitable metal such as aluminum, anodized aluminum, steel, **nickel**, copper, and the like, having a suitable heating element disposed in the hollow portion thereof which is coextensive with the cylinder (See Fig. 1; column 7, lines 6-53).

The cited prior art does not expressly teach that the cured base cushion elastomer is machined to desired thickness (Claim 1).

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As was discussed in the paragraph 8 of the Office Action mailed on 10/10/2006, Badesha et al teaches that a fuser roll can be made by priming a suitable base member 4 which is a **hollow** cylinder or core fabricated from any suitable metal such as aluminum, steel, nickel, copper, and the like, having a suitable heating element 6 disposed in the hollow portion thereof (See column 7, lines 7-16) with an epoxy adhesive such as Thixon 300/301 (See column 10, lines 15-18), applying elastomer layer 2 (See Fig. 1; column 7, lines 11-12) including thermoplastic fluoropolymers (See column 8, lines 1-17), curing and post curing for 2 hours at 200⁰F, two hours at 300⁰F, two hours at 350⁰F, two hours at 400⁰F, sixteen hours at 450⁰F and **grinding the Viton fluoroelastomer coating to a 3 inch diameter specification (claimed machining to a desired thickness)**, and applying and curing a topcoat layer at 200⁰C(See column 10, lines 26-45).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to have ground a cured cushion elastomer layer in Applicants' admitted prior art in view of Weber et al/Applicants' admitted prior art in view of Weber et al, Hartley et al and Chen et al/ to a desired thickness, as taught by Badesha et al.

As to claims 21 and 23, nickel and mandrel being of the same coefficient of expansion (e.g. of the same material) is *optional*.

6. Claims 1-3, 5-6, 8-11, 14, 16-18, and 21-25 are rejected under 35 U.S.C. 103(a) as being unpatentable over a combination of AAA in view of Shifley et al, Wallin, Kawada et al, Bird et al, Weber et al, Hartley et al and Chen et al, as applied above, and further in view of Petropoulos et al (US 5021109).

The cited prior art fails to teach that the sleeve is of the same material as the machine mandrel, i.e. mandrel is of nickel.

Petropoulos et al teach that typical mandrel materials include metals such as aluminum, stainless steel, **nickel**, chromium, copper, brass, and the like (See column 5, lines 33-35).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to have used a nickel mandrel in Applicants' admitted prior art in the cited prior art because Petropoulos et al teach that typical mandrel materials include metals such as aluminum, stainless steel, **nickel**, chromium, copper, brass, and the like.

7. Claim 18 is rejected under 35 U.S.C. 103(a) as being unpatentable over a combination of AAA in view of Shifley et al, Wallin, Kawada et al, Bird et al, Weber et al, Hartley et al and Chen et al, as applied above, and further in view of Schlueter, Jr. et al (US 5,995,796) for the reasons of record set forth in paragraph 11 of the Office Action mailed on 10/10/2006.

Response to Arguments

Applicant's arguments filed March 23, 2009 have been fully considered but they are not persuasive.

Claim Rejections - 35 U.S.C. § 103

(A) The Examiner states that Applicants admit that toner fuser rollers typically include a hollow cylinder core. While the location of such admission is not identified by the Examiner, such a statement is found in the paragraph bridging pages 2-3 of the specification. The Examiner continues to erroneously equate such reference to a "hollow cylinder core" to the nickel sleeve employed in the present invention. There is no basis for such position, however, as by the use of the term "core," it is clear such reference is directed towards the typical fuser rollers wherein the hollow cylinder is itself rigid and of substantial thickness so as function as the "core" of the roller itself (these type of roller cores are further described, e.g., in the cited Hartley et al. reference, at, e.g., col. 7, lines 60-66), to which the further described layers are directly coated. Such reference is not to a sleeve member adapted to be positioned over a machine mandrel to function as a roller, as in such embodiment it is the mandrel which in effect functions as the roller core. The use of the term "sleeve" as employed in the present invention accordingly clearly distinguishes from the "admitted prior art" regarding hollow cylinder cores. While the claimed use of a coated sleeve in combination with a mandrel itself clearly differentiates from a rigid core itself, it is further noted that claim 5 additionally sets forth thickness limitations for the sleeve

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that further distinguish the claimed invention from the prior art use of rigid cylindrical cores upon which the remaining layers of the fuser roller are directly coated.

The Examiner respectfully disagrees with this argument. Applicants admit that toner fuser rollers typically include a hollow cylinder core *without* referring to the thickness of the hollow cylinder core. The term "core" does not necessarily refer to the thick cylinder. For example, Badesha et al (US 5,141,788) refers to a **thin** cylinder 4 (See Fig. 1) fabricated from any suitable metal such as aluminum, anodized aluminum, steel, nickel, copper, and the like as a hollow **core** (See column 7, lines 6-53).

Moreover, Badesha et al (US 5,141,788) is an evidence that **thin** hollow cylinder cores fabricated from any suitable metal such as aluminum, anodized aluminum, steel, nickel, copper, and the like were known in the art prior to Applicants' invention.

Therefore, in contrast to Applicants statement, prior art hollow cylinder cores read on claimed sleeve **to be** positioned on a machine mandrel.

(B) Applicants argue that while it is initially noted that the other cited prior "art" simply does not teach metal sleeves on mandrels as discussed above, the teachings of Wallin in any event would not be applicable to the present claimed invention as the present invention is not directed towards formation of a metal belt on a mandrel, and further the present invention is directed towards employing a metal sleeve and mandrel having similar coefficient s of thermal expansion to minimize differential expansion during formation of the layers formed on the metal sleeve, rather than being directed towards the use of materials having substantially different coefficients to facilitate separation of a metal layer formed on the mandrel.

The Examiner respectfully disagrees with this argument. First of all, the present invention is directed towards employing a mandrel having a coefficient of thermal expansion equal to **80-120** of the coefficient of thermal expansion of the metal sleeve. Thus, in contrast to Applicants statement, claimed invention includes similar and dissimilar materials. Second, Wallin in any event would be applicable to the present claimed invention as the present invention is directed towards formation of a metal *cylindrical* belt on a mandrel.

(C) Applicants argue that a prima facie case of obviousness has clearly not been established, as the "admitted prior art" with respect to hollow cylinder cores referred to by the Examiner does not relate to the sleeve employed in the present claimed invention.

The argument is unconvincing because hollow cylinder cores referred to by the Examiner do relate to the sleeve employed in the present claimed invention.

Conclusion

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Elena Tsoy Lightfoot whose telephone number is 571-272-1429. The examiner can normally be reached on Monday-Friday, 9:00AM - 5:30 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Timothy Meeks can be reached on 571-272-1423. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR

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system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Elena Tsoy Lightfoot, Ph.D.
Primary Examiner
Art Unit 1792

April 30, 2009

/Elena Tsoy Lightfoot/